

REMARKS

Objection to Reissue Oath

The Examiner has objected to the originally filed reissue declaration. In response, applicant will file a Supplemental Declaration (PTO/SB/51S) executed by the inventor.

Claim Rejections Under 35 USC §103

Claim 61 was rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Panescu et al. ('847) in view of Nashef et al. ('899) and further in view of Littman ('411).

In response, applicants have amended claim 61 to include the limitation that the electrodes are coil electrodes and the conductive metallic band surrounds the distal shaft section and equilibrates tissue temperature about the conductive metallic band. In this manner, the catheter shaft is flexible enough with the coil electrodes for effective placement and with the conductive metallic band surrounding the distal shaft section, the temperature sensor can detect tissue temperature notwithstanding the axial orientation of the EP device.

The Examiner contends that it would be obvious to those skilled in the art to add a band to the device of Panescu et al. in view of the teachings of Nashef et al.. However, applicant disagrees. Specifically, applicants believe that Panescu et al. recognized that the EP device would have to be rotated in situ in order to place the sensor against tissue to be ablated. Panescu et al. approached the problem of orienting the EP device for placement by using multiple sensors radially disposed about the circumference of the catheter (see col. 7, lines 38-45), so there would be no teaching in

this reference of the use of a conductive band with the temperature sensor to avoid having to rotate the EP device at the treatment location so that the temperature sensor would be in contact with the tissue. Importantly, the only embodiment of Panescu et al. which places a temperature sensor between electrodes is that shown in Fig. 9 in which the electrodes 30 were rigid. There would be no inclination to provide a conductive band on the flexible shaft between two rigid electrodes as this might make the catheter shaft too stiff to be effectively placed against heart tissue to form the ablation.

The applicant submits that Panescu et al. reference teaches away from providing a conductive metallic band with a single sensor between two electrodes as called for in the rejected claims. In column 7 lines 39-46 of this patent, reference is made to providing a plurality of circumferentially spaced apart temperature sensors to give the physician greater latitude in positioning the ablating element 10 while still providing temperature monitoring. This would clearly negate any suggestion of combining the teachings of Panescu et al. and Nashef et al. as contended by the Examiner.

Similarly, Nashef et al. uses the conducting band not to affect temperature sensing about the circumference of the catheter but to dissipate heat generated by the temperature sensor. This would not suggest to those skilled in the art to apply the teachings of this patent to the teachings of Panescu et al. It teaches nothing regarding detecting the temperature of tissue of a patient's heart, it teaches measuring the temperature of blood flowing by the catheter. It is not designed to engage tissue. Indeed, the reference teaches the use of a balloon to ensure that the measuring end of the catheter stays in the blood flow, so there is no suggestion of combining this reference with the teachings of Panescu et al..

The Examiner has rejected claims 62, 63 and 68-79

No new matter is introduced by the aforesaid amendments. Support for such amendments is found in the present specification as indicated in the attached Status and Support sheet attached hereto.

Claims 62, 63 and 68-79 were rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Panescu et al. (U.S. Pat. No. 5,769,847) in view of Nashef et al. (U.S. Pat. 5,682,899) and further in view of Cosman ('597). In response applicant has amended these claims along the lines of the amendments to claim 61. The arguments applied to the rejection of claim 61 are equally applicable to the rejections of claims 62, 63 and 68-78 and these claim likewise should be allowable. Claims 78 and newly added claim 81 call for the temperature sensor to be connected to the electrode. Claim 79 has been cancelled without prejudice and has been replaced with new claim 80. These new claims are directed to the method of treating a patient's heart by forming a continuous lesion in the heart tissue to electrically separate a first tissue region from a second tissue region. In Nashef et al. and Panescu et al. there is no teaching of the temperature sensor being secured to either a conducting band or the electrode.

Response to Allowable Subject Matter

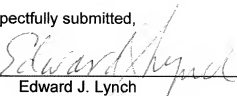
Applicant notes with appreciation the Examiner's allowance of Claims 1-52, 54-60, and 64-67.

Conclusions

A Marked-Up Amended Claims is attached to facilitate the Examiner's review of the amended claims. Applicant believes that the present application is in condition for allowance. Favorable reconsideration is earnestly solicited.

Respectfully submitted,

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